PROSTAT®

TECHNICAL DATA

PRS-801B and PRS-812B
Wide Range Resistance System and Meter

A Portable Wide Range Resistance Meter with high accuracy and fast Electrification Period.

The PRS-801B Resistance System Set is a wide range meter capable of measuring resistance from 0.01 ohm to 2.00E+14 ohms (200 Teraohm). The PRS-801B uses a constant test voltage system that is extremely stable and consistent with lab level, bench top instruments.

The PRS-812B's accurate wide range of 0.10 ohms to 1.00E+12 ohms, offers exceptional flexibility in measurement applications. The PRS-812B has Automatic, Manual and Auto-Manual operational modes, plus exponential display or standard numeric display in Ω, KΩ, MΩ, GΩ and TΩ.

Both the PRS-801B and PRS-812B use a Li-ion battery pack, rechargeable via USB. Battery life exceed 480 hours when measuring in Auto-Manual mode and allows you to typically make approximately 8,000 measurements.

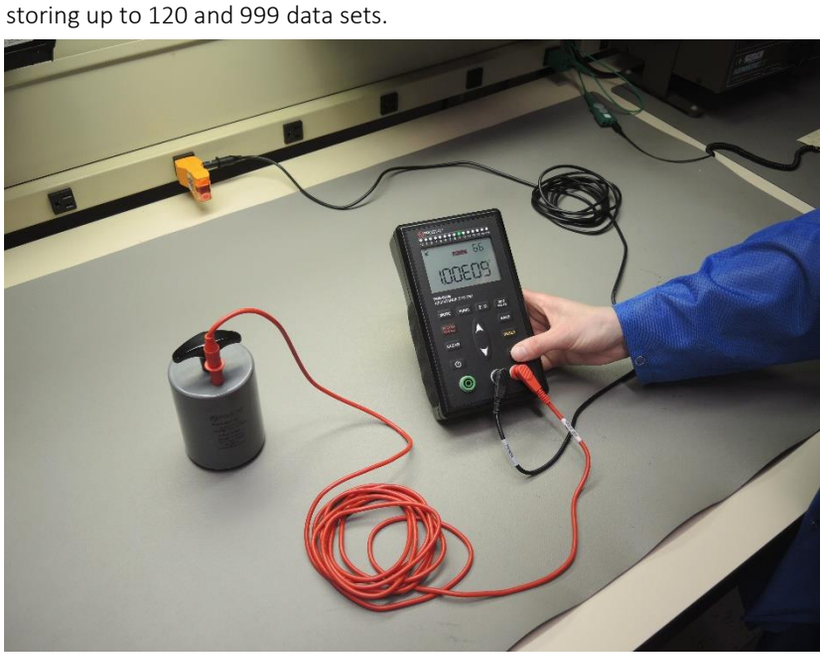
Both models include an internal memory capable of storing up to 120 and 999 data sets.

Product Highlights

- Accurate Wide Range Resistance Measurements
- Variable Voltage 0.1 mv to 9.99 V for low resistance measurements
- Constant Test voltages 10V and 100V
- Auto Resistance Range Control
- Auto Test Voltage Control
- Connect to Virtually any 2-wire Fixture or electrode configuration
- Uses rechargeable Li-ion batteries
- Provides up to 5 days of continuous use
- Internal memory up to 120 and 999 data sets
- Download to Excel® with Connect 2.0 (PRS-801B only)

What's included

- High Quality Test Leads
- Test Lead Shunt
- Premium Shielded Test Lead (PRS-801B only)
- High Resistance Test Lead (PRS-801B only)
- USB 2.0 A to Micro-B Cable
- AC/DC Power Supply with Multi-Blade Input
- Audit Test Bed
- NIST Traceable Calibration Certificate with Data



General Specifications

Characteristics	Model	
	PRS-801B	PRS-812B
Measuring Range	0.01 Ω to 2.00 x 10^{14} Ω	0.10 Ω to 1.00 x 10^{12} Ω
Measurement Modes	Auto, Manual, Auto-Manual, Continuous	Auto, Manual, Auto-Manual
Display	6.9 cm x 4.8 cm (2.7" x 1.9") 6 digit - 7 segment color HTN display	
Battery Power	Re-chargeable Li-Ion battery (included). Battery swappable through easily accessible battery door at the rear of the instrument	
Battery Charging	Rechargeable via USB 2.0 through PC port or Wall Charger (included)	
Battery Charge Indicator	Battery has a status indicator on instrument screen	
Battery Charging Time	2 hours	
Battery Life	480 hours typical 50 hours (of continuous use) Approximately 8,000 measurements	
Memory Capacity	999 data sets	120 data sets
	Data sets include resistance, test voltage, electrification period and timestamp.	Data sets include resistance.
Data Download	Compatible with Connect 2.0[1]	N/A
USB	USB 2.0 A to Micro-B	
Operating Temperature	10°C to 30°C (50°F to 80°F)	
Operating Relative Humidity	0% – 85%, non-condensing	
Operating Altitude	2000 m	
Storage Temperature	-30°C to +60°C (-22 °F to +140 °F)	
Dimensions (WxHxD)	117 mm x 188.5 mm x 48 mm 4.59 in x 7.42 in x 1.90 in	
Weight	510 g (1.12 lb)	500 g (1.10 lb)
Case Material	Polycarbonate with Rubber Side Grips	
Color	Black	Grey
Warranty	2 Year Limited Warranty[2]	

[1] Compatible with Microsoft® Windows® Operating Systems

[2] Warranty on the battery pack limited to a defective battery pack and excludes normal end of life of the battery. The warranty does not cover defects that are caused by normal wear and tear, inadequate maintenance, insufficient ventilation, transportation, storage or faulty repair, misuse, neglect, accident or abuse, modification to the battery pack.

Resistance Measurement Specifications

Measuring Range	Resolution	Accuracy [1]	
		800LB and 800LR Leads	800PSL and 800TVL Leads
0.01 Ω to 1.00 Ω	0.01E-0 to 1.00E0	±5%[2]	±5%[2]
1.01 Ω to 9.99 x 10^{10}	1.01E0 to 9.99E10	±2%	±2%
1.00 x 10^{11} to 9.99 x 10^{11}	1.00E11 to 9.99E11	±5%	±5%
1.00 x 10^{12} to 2.0 x 10^{14}	1.00E12 to 2.00E14	N/A	±20%

[1] at 23°C (73.5°F) and 30% RH

[2] Corrected for test lead resistance

Test Voltage Accuracy

Test Voltage	Units	Resistance Range	Accuracy [1]
.0001 – 9.99	V	1E-2Ω to <1E4Ω	± .5%
10	V	1E4Ω to <1E6Ω	± .5%
100	V	1E6Ω to ∞	± .5%

[1] at 23°C (73.5°F) and 30% RH

LED Indicators

Resistance Measurement (Ω)		Illuminated Decade LED
Min	Max	
0	9.99E1	<2
1.00E2	9.99E2	2
1.00E3	9.99E3	3
1.00E4	9.99E4	4
1.00E5	9.99E5	5
1.00E6	9.99E6	6
1.00E7	9.99E7	7
1.00E8	9.99E8	8
1.00E9	9.99E9	9
1.00E10	9.99E10	10
1.00E11	9.99E11	11
1.00E12	9.99E12	12
1.00E13	9.99E13	13
1.00E14	9.99E14	14
>9.99E14		>14

Measurement Modes

Mode	Resistance Range	Test Voltage	
Automatic	Automatic	Automatic	@<10V: 0.01 to <1.00E+04 Ω @ 10V: 1.00E+04 to <1.00E+06 Ω @100V: 1.00E+06 to 2.00E+14 Ω
Manual	Manual	Manual or Automatic	@<10V: 0.01 to <1.00E+03 Ω @ 10V: 1.00E+03 to <1.00E+11 Ω @100V: 1.00E+06 to 2.00E+14 Ω
Auto-Manual	Manual Start Automatic Run	Automatic	@<10V: 0.01 to <1.00E+04 Ω @ 10V: 1.00E+04 to <1.00E+06 Ω @100V: 1.00E+06 to 2.00E+14Ω
Continuous	Automatic	Automatic	@<10V: 0.01 to <1.00E+04 Ω @ 10V: 1.00E+04 to <1.00E+06 Ω @100V: 1.00E+06 to 2.00E+14 Ω

Electrification Period

Resistance Range	Measurement Period	Minimum Electrification Period
1.00E-2 Ω to <1.00E6 Ω	2 seconds	3 seconds
1.00E6 Ω to <1.00E12 Ω	2 seconds	8 seconds
1.00E12 Ω to <1.00E13 Ω	Variable	15 seconds
1.00E13 Ω to <1.00E14 Ω	Variable	20 seconds
>1.00E14 Ω	Variable	20 seconds

801B-012 Li-Ion Battery Pack

General Specifications	
Battery Type	3-cell, Rechargeable
Technology	Lithium-Ion Technology
Nominal Capacity	2400mAh
Output Voltage	3.7V
Performance Amp-Hour	2.4Ah
Performance Watt-Hour	8.88Wh
Transport Safety Certified	UN38.3
IATA UN Number	UN3480
IATA Class (Sub Hazard)	9
Operating Temperature	Discharging: -20°C to 60°C (-4°F to 140°F) Charging: 0°C to 45°C (32°F to 113 °F)
Storage Temperature	-5°C to 35°C (-23°F to 95°F)
Storage Humidity	≤75% Rh
Battery Pack Dimensions (WxHxD)	53mm x 48.5mm x 15mm 2.0” x 1.9” x 0.6”
Weight	65g (2.2 oz)

Packing Instructions (P.I.)[1]

When battery is packaged separately (e.g. a replacement battery pack):	IATA P.I. 965 Section IB applies
When battery is packaged with the resistance meter, not contained in it:	IATA P.I. 966 Section II applies
When battery is contained within the resistance meter, then packaged:	IATA P.I. 967 Section II applies

[1] Per IATA 2021 regulations. Regulations subject to change without notice.

The 801B-012 battery packs have been tested and were found to comply with the criteria of “UN Model Regulations, Manual of Test and Criteria, ST/SG/AC.10/11/Rev.7 Part III, subsection 38.3”, also known as “UN38.3”. As a result they can be shipped unrestricted internationally by any means.

Ensure that any shipment packaging that contains these batteries is properly marked on the outside of the package for containing Li-ion batteries, using the label as described in the ‘Additional Requirements Section’ of Packing Instructions 965…970. Minimum size of the label is 120 x 110 mm (4.75 x 4.33 inches).

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Ordering Information

Part No.	Description
PRS-801B	Resistance System Set
PRS-801RM	Surface Resistance System Kit[1]
PRS-812B	Resistance Meter Set
PRS-812RM	Surface Resistance Meter Kit[1]

[1] Includes 2 each PRS-801W 5lb Conductive Rubber Electrodes and a PMK-151C Carrying Case

Optional Accessories

Part No.	Description
PRS-801W	5lb Conductive Rubber Electrode
PRS-801-VW	Premium 5lb Conductive Rubber Electrodes
PRF-912B	Miniature Concentric Ring
PRF-922B	Miniature 2-Point Probe
PRF-911	Concentric Ring
PRS-800CS	Cable Spacers
PFA-860	Footplate
PFA-861H	Hand-Held Electrode
PCF-825B	Glove CAFÉ Fixture
Q007B	Grounding Cube
PMK-151C	Hard Carrying Case

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